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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,343

05/08/2006

Peter L. Fraenkel

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EXAMINER

WIEHE, NATHANIEL EDWARD

ART UNIT

PAPER NUMBER

3745

MAIL DATE

DELIVERY MODE

06/05/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/549,343	<b>Applicant(s)</b> FRAENKEL, PETER L.	
	<b>Examiner</b> Nathan Wiehe	<b>Art Unit</b> 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 15-34 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-21, 23-29 and 34 is/are rejected.
- 7) ☒ Claim(s) 22 and 30-33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2006 and 24 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10312006</u> | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 31 October 2006 is noted. The submission is in compliance with the provisions of 37 CFR 1.97 and 1.98. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Specification***

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it is in claim format.

Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15,21,23 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Bowley (4,383,182). Bowley discloses a support structure for a flowing-water drivable turbine system including a plurality of legs (12) fixed to the sub-aquatic bed (16) and coupled to a horizontal deck (22) having a asymmetrical streamlined cross-section defined by a greater convexity on one of the upper or lower surfaces compared with the other, i.e. "wing-shaped". Also, Bowley's deck is generally rectangular.

In regard to claim 29, Bowley's support structure appears to be capable of operating sufficiently far enough above an obstruction to allow any turbulent boundary layer forming adjacent to the sub-aquatic bed to pass below the deck.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-18,24-26 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowley (4,383,182) in view of Pedersen (4,864,152). Bowley discloses a support structure for a flowing-water drivable turbine system including a plurality of legs (12) fixed to the sub-aquatic bed (16) and coupled to a horizontal deck (22) having a asymmetrical streamlined cross-section defined by a greater convexity on one of the upper or lower surfaces compared with the other, i.e. "wing-shaped". Also,

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Bowley's deck is generally rectangular. Further, Bowley's support structure including a means for displacing the deck. The means include extendable tension member (14) connecting the desk (22) to the legs (12) and the cross-section of the deck provides a lifting force to balance the buoyant forces on the support structure (Bowley column 4, lines 46-49). Bowley does not disclose the use of a maintenance position being adjacent or above of the water surface. Pedersen discloses a water current turbine support structure including a means for displacing the turbines between an operable position and the maintenance position. Pedersen's maintenance position is above and adjacent the surface of the water to facilitate servicing and repair of the turbines (Pedersen column 2, lines 14-19). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the current turbine of Bowley by utilizing a maintenance position adjacent and above the water surface as taught by Pederson for the purpose of facilitate service and repair of the turbines.

Claims 15,16,19,20,23,24,27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haining (5,440,176) in view of Bowley (4,383,182), Pedersen (4,864,152) and Praenkel (6,652,221). Haining disclose a water current turbine support structure including a plurality of legs (102) connected to a deck (101). However, Haining does not disclose the use of an asymmetric cross-sectional deck, a maintenance position adjacent or above the water surface, or a means for displacing the deck comprising vertically movable lifting sleeves.

Bowley discloses a support structure for a flowing-water drivable turbine system including a plurality of legs (12) fixed to the sub-aquatic bed (16) and coupled to a

horizontal deck (22) having a asymmetrical streamlined cross-section defined by a greater convexity on one of the upper or lower surfaces compared with the other, i.e. "wing-shaped". Bowley's wing-shaped deck provides a balance between the buoyant and lift forces on the deck (Bowley column 4, lines 46-49). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the deck of Haining by utilizing an asymmetrical cross-section deck as taught by Bowley for the purpose of balancing the buoyant and lift loads on the deck.

Pedersen discloses a water current turbine support structure including a means for displacing the turbines between an operable position and the maintenance position. Pedersen's maintenance position is above and adjacent the surface of the water to facilitate servicing and repair of the turbines (Pedersen column 2, lines 14-19). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the current turbine of Haining by utilizing a maintenance position adjacent and above the water surface as taught by Pederson for the purpose of facilitate service and repair of the turbines.

Praenkel discloses a current turbine support structure including a means for displacing the turbine (26) between an operable and maintenance position. Praenkel's means includes a vertically movable lifting sleeve (6A) connected to the leg (1) of the support structure. Praenkel's sleeve further utilizes low friction thrust pads (7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the water current turbine support structure of Haining by including a means for displacing the deck utilizing a sleeve displaceable along the legs as taught by

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Praenkel for the purpose of providing a low-friction means of adjusting the vertical displacement of the deck.

***Allowable Subject Matter***

Claims 22 and 30-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: It is not known in the art of current turbines to utilize two parallel decks both having an asymmetrical streamlined cross-section defined by a greater convexity on one of the surfaces compared to the other.

***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent issued to Souczek discloses a buoyant current turbine utilizing a deck that has an asymmetrical cross-section.

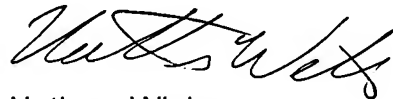
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Wiehe whose telephone number is (571)272-8648. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Nathan Wiehe  
Examiner  
Art Unit 3745



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5/29/07